AR_N00217_003119
HUNTERS POINT
SSIC NO. 5090.3.A

5090
Ser 183/L5184
18 Aug 1995

From: Commanding Officer, Engineering Field Activity, West, Naval Facilities Engineering Command
To: Distribution

Subj: TRANSMITTAL OF INTERIM UPDATE TO THE BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP PLAN (BCP) (MARCH 1995) FOR HUNTERS POINT ANNEX

Encl: (1) Interim Update for Hunters Point Annex BCP of March 1995

1. The enclosure, which provides new pages to include revised Federal Facility Agreement (FFA) schedules, and appendix A, is hereby transmitted for your information and use. The new FFA schedules, which were agreed upon by the Base Realignment and Closure (BRAC) Cleanup Team (BCT) in June 1995, show the current schedule of investigation through the start of Remedial Action for Parcels A through E. Appendix A shows estimated cleanup costs for Hunters Point Annex from Fiscal Year 1995 and beyond. The cost data was not originally included in the BCPs because of the time it took to develop consistent Navy-wide environmental cost estimates through the Cost-to-Complete methodology.

2. Please direct any questions you may have to the installation's BRAC Environmental Coordinator (BEC), Mr. Michael McClelland at (415) 244-3048

3. I thank you for your participation and support and look forward to continually working with you on environmental cleanup and compliance activities at our closing bases.

HENRY C. GEE
By direction of
the Commanding Officer

Distribution:
BRAC Environmental Coordinator (Attn: Mr. Michael McClelland)
U.S. Environmental Protection Agency (Attn: Ms. Clair Trombadore, w/2 cys of encl)
CA Department of Toxic Substances Control (Attn: Mr. Cyrus Shabahari, w/2 cys of encl)
California Regional Water Quality Control Board (Attn: Mr. Richard Hiett)
City and County of San Francisco (Attn: Ms. Amy Brownell)

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National Oceanic & Atmospheric Administration (Attn: Ms. Denise Klimas)
Radiological Affairs Support Office, Yorktown, VA (Attn: LCDR Lino Fragoso)
U.S. Department of the Interior (Attn: Mr. William Allen)
U.S. Fish & Wildlife (Attn: Mr. Jim Haas)
California Department of Fish & Game (Attn: Mr. Mike Martin)
Bay Area Air Quality Management District (Attn: Ms. Catherine Fortney)
Bay Conservation and Development Commission (Attn: Ms. Jennifer Ruffolo)
San Francisco Redevelopment Agency (Attn: Mr. Byron A. Rhett)
Law Offices of Leslie R. Katz (Attn: Ms. Leslie Katz)
The New Bayview Committee (Attn: Mr. Samuel Murray)
ARC/Arms Control Research Center (Attn: Mr. Saul Bloom)
SEED (Attn: Mr. Sy-Allen Browning)
Business of Hunters Point Shipyard (Attn: Mr. Scott Madison)
Mayor's Hunters Point Shipyard Citizens Advisory Committee (Attn: Mr. Al Williams)
Bay Area Base Transition Coordinator (Attn: CDR Al Elkins)
Bayview Hunters Point Homeowners Council (Attn: Mr. Nicholas S. Agbabiaka)
Willie Bell McDowell
Silk Gaudain
Carolyn Bailey
Jeffrey Shaw
Wedrell James
Ilean McCoy
Charlie Walker
Caroline Washington
Karen Huggins
Michael Harris
David Umble
Julia Viera
Gwenda White
U.S. Department of the Interior (Attn: Ms. Patricia Port)
COMNAVBASE San Francisco (Attn: CAPT Kathy Dodge)
U.S. EPA Region 9 (Attn: Ms. Deirdre Nurre)
CAL EPA (Environmental Assessment and Reuse Specialist)
CAL EPA (Public Participation Specialist)
CNO (N444D) (Attn: CDR Peter H. Hendrikson)
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BASE REALIGNMENT AND CLOSURE CLEANUP PLAN SECOND EDITION

DATED 24 FEBRUARY 1995

THIS RECORD IS ENTERED IN THE DATABASE AND FILED AS

RECORD NO. AR_N00217_003073

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EXECUTIVE SUMMARY

Hunters Point Annex (HPA), under caretaker status of Engineering Field Activity West (EFA WEST), Naval Facilities Engineering Command, is a deactivated Navy shipyard listed by the Department of Defense (DoD) in 1991 for closure. HPA is in southeastern San Francisco, California, adjacent to San Francisco Bay, as shown on Figures 1-1 and 1-2, and consists of 936.37 acres: 493.47 on land and 442.90 under water in San Francisco Bay (Freitas 1994).

The Navy took over ship repair facilities at the site and obtained ownership in 1940. Subsequently, the Navy expanded the facility through a condemnation process and purchase of additional adjacent property. Designated as a U.S. Naval Shipyard on November 30, 1945, HPA served as a ship repair and construction facility until 1974, when it was shut down. From 1976 to 1986, HPA was leased to Triple A Machine Shop Incorporated. In 1986, Triple A Machine Shop was forced to leave the site amid a lawsuit by the City and County of San Francisco (City) alleging illegal disposal of large quantities of hazardous wastes at HPA. Because of the presence of hazardous materials from past shipyard operations, HPA was placed on the National Priorities List in 1989 as a Superfund site, pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (42 USC Section 9601), as amended by the Superfund Amendments and Reauthorization Act of 1986. In 1991, Congress and the President called for the closure of HPA as mandated by the Base Closure and Realignment Act (BRAC) of 1988.

To meet the requirements of CERCLA, the Navy, the U.S. Environmental Protection Agency (EPA), and the California Environmental Protection Agency (Cal/EPA) executed a Federal Facility Agreement (FFA) on January 22, 1992. The FFA is a legally binding document that establishes the procedural framework and schedule for developing, implementing, and monitoring appropriate response actions at HPA. The FFA ensures that environmental impacts associated with past activities at HPA are thoroughly investigated and the appropriate cleanup action is taken to protect public health and the environment. The HPA FFA schedules for Parcels B through E were negotiated on February 4, 1994. New schedules for Parcels A through F were renegotiated in June 1995 due to budget and contract capacity constraints. The new current schedules are presented in Chapter 5 of this Base Realignment and Closure (BRAC) Cleanup Plan (BCP).

A Memorandum of Understanding between the Navy, the City, and the San Francisco Redevelopment Agency was signed on January 21, 1994. The memorandum identified the City as the first bidder for HPA property and set out a mechanism for HPA property transfer to the City. Since the memorandum was signed, new legislation allows for a more favorable agreement for all parties, and the memorandum was set aside. The Navy, with support from Congresswoman Nancy Pelosi and Mayor Frank Jordan, continues to seek the best possible option for the City and the Navy for transfer of HPA property.

In accordance with CERCLA (Section 120[h][4]), as amended by the Community Environmental Response Facilitation Act, the Navy is required to identify clean or uncontaminated property with regulatory concurrence at closing military bases for transfer and reuse to the community. A draft reuse map describing the preferred reuse alternative was issued November 1, 1994, by the Office of Military Base Conversion in consultation with the Bayview Hunters Point Citizens' Advisory Committee for community review purposes. Prior to transfer, the Navy will clean up HPA according to the reuse plan developed by the City. The reuse map is shown as Figure 2-1 of this BCP.

Under the BRAC and the Defense Base Closure and Realignment Act of 1990, the DoD is required to accelerate the process of environmental cleanup of closing military bases to facilitate lease or transfer of property for reuse. To accelerate the cleanup and to identify uncontaminated property for reuse, a cleanup team composed of members from the DoD, EPA, and State of California was formed in accordance with DoD guidance. This cleanup team is called the BRAC Cleanup Team (BCT). The BCT is responsible for assembling a project team of technical experts to facilitate the transfer of property for reuse. The BCT members and project team are shown in Table 1-1.

The transfer of HPA property is a multi-stage process that involves the following activities: (1) investigation and remediation of contaminated sites under CERCLA and the Resource Conservation and Recovery Act (RCRA); (2) preparation of this BCP; (3) preparation of a base-wide environmental baseline survey to identify "uncontaminated" parcels within the meaning of CERCLA Section 120(h)(4), as amended by the Community Environmental Response Facilitation Act; (4) designation of land in compliance with the Coastal Zone Management Act and the City's master land use plan; (5) preparation of environmental impact analysis as required by the National Environmental Policy Act; and (6) preparation of a Finding of Suitability to Transfer as required by DoD. To reduce delays in

Contaminants found on-site include petroleum products, heavy metals, organic solvents, and radioactive materials, such as radium-containing instrument dials. Accomplishments of environmental restoration efforts at HPA during 1994 include the following:

- The practical way of conducting a remedial investigation at a Superfund site has been modified to accelerate the process by dividing HPA into five parcels. The new FFA schedule based on parcels was approved in February 1994. HPA is the first Navy facility at which division into separate geographical parcels was used. This has resulted in the accelerated availability of Parcel A for transfer.

- Parcel A is almost 90 acres of HPA that was primarily office and residential in use. Because of its historical use, Parcel A was found to be less contaminated in comparison to the other parcels. To accommodate the City reuse plan and the discovery of low levels of few contaminants in the groundwater, Parcel A has been further divided into five subparcels. Mechanisms of transferring the upland portion and lowland portion are being discussed.

- The investigation of the installation identified areas of contamination that are attributable to Triple A Machine Shop as well as those attributed to previous Navy operations. At this stage, the necessary information is almost complete to compile site conceptual models showing contaminants identified and the areas affected. Work to complete the conceptual models is proceeding according to the schedule agreed to in the FFA.

- Ten aboveground storage tanks have been removed at HPA, including nine from the tank farm.

- An asbestos survey was conducted for Parcels B through E. This survey, in addition to the survey previously conducted for Parcel A, provides a complete inventory of friable and nonfriable asbestos conditions at HPA and includes recommendations for abatement of damaged, friable, and accessible asbestos.

- A site assessment of potentially contaminated sites not previously addressed under the Installation Restoration Program was conducted for Parcels B through E. The investigation covered a total of 110 buildings and areas. Of the total number of sites investigated, 28 sites are recommended for further investigation based on observed or potential releases of chemicals to the environment.

- The Navy held an open house on August 24, 1994. During the open house, representatives from the San Francisco Redevelopment Agency presented the land use alternatives under consideration for HPA. The open house provided an opportunity for the Navy to present information about the cleanup process at HPA. It also created a forum for the participants and community members to ask questions and become involved.

- An environmental baseline survey and Finding of Suitability to Lease (FOSL) were completed for Dry Dock 4. The environmental baseline survey summarizes the environmental condition of Dry Dock 4 and concludes that Dry Dock 4 is suitable to lease for ship dismantling. In addition, working cooperatively, the Navy, EPA, and the Navy's contractor, completed an

environmental baseline survey and FOSL for buildings 606, 281, and 383. Buildings 606 and 281 are being used as production film sets. Building 383 is being used for educational purposes.

This BCP has been developed to provide a management tool for the BCT and the concerned parties. The BCP is organized into six chapters. Chapters 1 and 2 provide general information regarding the HPA base history, environmental setting, site tenants, applicable environmental laws, the cleanup process, and the reuse plan. Chapters 3 and 4 discuss specific information regarding the status of the environmental condition of the base for both Superfund and compliance sites, and the strategy for improving knowledge about the environmental condition to identify appropriate remediation. Chapter 5 includes the current cleanup schedule for HPA, and Chapter 6 outlines unresolved issues that must be addressed by the BCT and other project team members. The text is supplemented by a list of acronyms, a glossary, figures with clear film overlays, tables, and appendices. The appendices contain the HPA budget summary and a list of project reports. This BCP is the first revision and will be updated on a yearly basis.

CHAPTER 1

INTRODUCTION AND BASE DESCRIPTION

This Base Realignment and Closure (BRAC) Cleanup Plan (BCP) is a Department of Defense (DoD) document required for all closing DoD installations. It is prepared to aid in the implementation of President Clinton's July 2, 1993, decision to expedite and improve environmental response actions and facilitate the transfer and reuse of DoD property while protecting human health and the environment. This document represents the first revision of the BCP for Engineering Field Activity West (EFA WEST), Naval Facilities Engineering Command, Hunters Point Annex (HPA). It was prepared with information available as of December 31, 1994. The original HPA BCP was dated March 5, 1994.

HPA is in the southeast portion of San Francisco County, California, as shown in Figure 1-1. HPA is a deactivated Navy shipyard that was selected and approved for closure and disposition by the BRAC Commission in 1991. It is currently under caretaker status by EFA WEST located in San Bruno, California, and portions of HPA have been leased to private parties.

Because of the presence of hazardous materials resulting from past shipyard operations at HPA, the U.S. Environmental Protection Agency (EPA) placed HPA on the National Priorities List in 1989. Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), the Navy, the EPA, and the California Environmental Protection Agency (Cal/EPA) executed a Federal Facility Agreement (FFA) on January 22, 1992. The FFA provides a working agreement between the regulatory agencies (EPA and Cal/EPA) and the Navy to facilitate the investigation and cleanup of current and former HPA properties. The area of investigation includes on-base property, one off-base property (the railroad right-of-way), and formerly used defense sites (properties that were once owned by the Navy but have since been transferred to other parties). For purposes of the Navy's Installation Restoration Program, the facility is divided into five parcels, A through E, as shown in Figure 1-2. FFA schedules for completion of Installation Restoration Program work for Parcels A through E were renegotiated February 4, 1994. The FFA schedules were renegotiated in June 1995 and now includes a schedule for Parcel A and F. Parcel F is the off-shore portion of HPA. The schedules are presented in Chapter 5.

A Memorandum of Understanding between the Navy and the City and County of San Francisco (City) was executed January 21, 1994. This memorandum identified the City as the first bidder for HPA property and establishes a mechanism for HPA property transfer to the City. It details the principles of option to purchase these parcels upon conclusion of all environmental investigations and onset of cleanup.

This BCP is a working document to be used for planning environmental restoration and compliance activities at HPA. This BCP reflects a comprehensive bottom-up program review prepared in consultation with the HPA BRAC Cleanup Team (BCT) to facilitate the return of the facility to the community for beneficial reuse. The BCP is designed to be used as a primary document to (1) justify the environmental budget during the budgeting process (see Appendix A); (2) reflect the collective effort, concurrence, and ownership of the BCT; (3) identify the availability of HPA real estate for transfer or interim reuse; and (4) discover opportunities for accelerating the environmental program. Changes to this BCP in response to State of California, federal, and community input could result in changes affecting the implementation, cost, and schedule of the planned actions.

1.1 ORGANIZATION AND FEATURES OF THIS BCP

This section provides a brief guide to the organization and features of this BCP to guide the reader in its use.

1.1.1 Organization

The BCP is organized as follows:

- Chapters 1 and 2 provide general information regarding the history of HPA, environmental setting, site tenants, applicable environmental laws, the cleanup process, and reuse plan.
- Chapters 3 and 4 include specific information on the environmental condition of the base for both Superfund and compliance sites. Chapter 3 discusses the current environmental status of HPA. Chapter 4 presents the strategy for improving knowledge of HPA to identify appropriate remediation.
- Chapter 5 provides the current cleanup schedule for HPA.

- Chapter 6 describes unresolved issues that must be addressed by the BCT and other project team members.
- Appendix A, the HPA budget summary, is the current estimate to complete investigation and remediation of HPA.
- Appendix B provides a chronological list of project reports.

1.1.2 Features

To assist the reader, a list of commonly used acronyms and abbreviations and a glossary of terms follow the table of contents. Figures and tables follow the chapter in which they are referenced. The figures appear first, followed by the tables. Many documents and other material are called out in the main text and tables. Two examples of the reference citations are as follows: "(Accurso 1992)" and "(EFA WEST 1991)." A list of the cited references follows Chapter 6 of this BCP. Because of the complexity of the HPA facility, clear film overlays have been designed to show specific information such as the location of the Installation Restoration Program sites, buildings currently used, buildings containing asbestos, habitat, and reuse on a base-wide scale. These overlays can be taken out of the binding and placed on top of the master site map (Figure 1-2). Figures showing the Installation Restoration Program sites, identified chemical contamination sites in soil and groundwater, and utilities are presented on a larger scale by parcels and are located in Chapter 4.

This BCP provides special material that can be used as resources for issues related to the environment and reuse of the facility. Resources for environmental issues include the following:

- Table 1-1 lists the project team members and their roles.
- Figure 3-1 presents a chart of the historic and current site groupings.
- Figures 3-2, 3-8, 3-9, 3-20, and 3-27 provide maps of various site features presented as clear film overlays.
- Figures 3-4 through 3-7 include pictorial images by parcel of the location of soil and groundwater contamination and its potential to migrate.
- Figures 3-10 through 3-19 show the locations of chemical contamination in soil and groundwater.

- Figures 4-1 through 4-5 provide maps by parcel of the Installation Restoration Program sites.

Resources related to reuse issues include the following:

- Table 1-5 and Figure 1-4 present a list and a map of buildings currently used.
- Table 2-1 details an assessment of the ease of reuse of site buildings.
- Table 2-2 lists all buildings of immediate interest to the City.
- Table 3-7 and Figure 3-20 provide a list and a map of buildings impacted by the presence of asbestos.

1.2 ENVIRONMENTAL RESPONSE OBJECTIVES

The objectives of the base closure environmental restoration program at HPA are to protect human health and the environment, attempt to meet the reuse goals established by the community, and comply with existing state and federal laws, regulations, and other requirements. To achieve these objectives, CERCLA Section 120(h), as amended by the Community Environmental Response Facilitation Act of 1992 (CERFA), will be implemented as follows:

CERCLA

- Conduct all Installation Restoration Program activities in a manner consistent with Section 120 of CERCLA, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA).
- Meet FFA deadlines as outlined in Chapter 5 of this BCP.
- Continue efforts to identify all potentially contaminated areas through continued sampling and analysis under the Installation Restoration Program.
- Incorporate any new sites into the FFA, as appropriate.
- Initiate selected removal actions to control, eliminate, or reduce risks to manageable levels.
- Develop, screen, and select remedial actions that reduce risks in a manner consistent with statutory requirements.

as radium dials, gauges, deck markers, and other components of electronic equipment to be read in the dark, have been disposed of in the Industrial Landfill (IR-01) and the Bay Fill Area (IR-02) landfills. Prior to the 1970s, radioluminescent equipment used by the Navy contained radium-226 (^{226}Ra) or strontium-90 (^{90}Sr) that was mixed into a phosphorescent paint base. IR-02 contains an area, approximately 400 feet long by 250 feet wide, where ^{226}Ra-containing materials have been identified; ^{90}Sr materials have not been identified in IR-02. Environmental investigations, concluding in 1993, have shown that ^{226}Ra-containing materials were identified to a maximum depth of approximately 9 feet below surface level in IR-02.

Since the landfills contain a large volume of potentially contaminated soil, it may be difficult to remediate the hazardous waste and radioactive contamination in some areas of Parcel E to a level suitable for reuse. As the remedial investigation progresses, other areas may be identified that are not suitable for reuse.

2.4 STRATEGY FOR INVESTIGATION AND REMEDIATION

According to the Federal Facility Agreement of 1992, the strategy for addressing contamination at HPA is to complete Installation Restoration Program work sequentially from Parcels A through E as described in Section 3.1. This follows the intended acquisition sequence recommended by the Office of Military Base Conversion. The BCT intends to continue developing a strategy focused on identifying removal actions, interim remedial actions, and presumptive remedial actions where available information allows the BCT to reach consensus. The only actions allowed under this strategy are those that expedite and improve environmental response to protect human health and the environment and that facilitate the disposal and reuse of HPA. Several such actions have already been taken and have been proposed, as discussed in Section 3.1.3. The execution of the proposed early environmental response actions, however, are subject to budget constraints.

The schedule for Parcel A has been revised and agreed upon as shown in Chapter 5. Samples taken from groundwater at Parcel A indicate that it may be contaminated with motor oil. Additional investigation is required to determine whether hazardous substances in addition to motor oil have migrated to the groundwater. Parcel A is envisioned to be transferred in mid 1996.

Schedules for completion of remedial investigation and feasibility study work under the Federal Facility Agreement were agreed to for Parcels B through E on February 4, 1994. New renegotiated Federal Facility Agreement schedules as of June 1995 for Parcels A through F are shown in Chapter 5.

2.5 PROPERTY TRANSFER METHODS

A Memorandum of Understanding was signed by the Navy and San Francisco Mayor Jordan on January 21, 1994. The memorandum between the Navy, City, and the San Francisco Redevelopment Agency set out a mechanism for the transfer of HPA property to the City. After the signing of the memorandum, the passage of the Pryor Amendment and DoD's implementing regulations have allowed for a more favorable agreement for all parties. The memorandum has been set aside in favor of pursuing an agreement to lease in furtherance of conveyance to the City. This agreement will give the City a marketable interest in the property and allow them to develop an interim strategy leading to a long-term revitalization of HPA.

When property is ready for transfer by deed to the City, parcels may be identified for transfer based on a Finding of Suitability to Transfer (FOST) and a Finding of Suitability To Lease (FOSL). Both FOSTs and FOSLs are supported by an environmental baseline survey and environmental assessment.

The submerged HPA property that contains contaminated sediments will be evaluated during phase 1B of the ecological risk assessment. If the submerged HPA property is found to require further investigation and characterization, the possibility of the designation of this area as an additional parcel may be considered. Transfer of the submerged property may occur separately from the transfer of Parcels B through E. Rights of ingress and egress, however, for the submerged portion will be associated with the transfer of Parcels B through E, where necessary and appropriate to ensure the City's ability to develop a maritime industry, as is now planned.

CHAPTER 3

INSTALLATION-WIDE ENVIRONMENTAL PROGRAM STATUS

This chapter discusses the status of the environmental restoration and compliance programs. For the current installation-wide strategy, please refer to Chapter 4 of this document.

3.1 ENVIRONMENTAL PROGRAM STATUS

The Navy, EPA, and Cal/EPA signed a Federal Facility Agreement (FFA) on January 22, 1992. The FFA documented the Navy's intended action and schedule pertaining to environmental investigation and remediation at HPA pursuant to the following authorities:

- Section 120 of CERCLA
- Sections 6001, 3008(h), 3006, and 3004(u), and (v) of RCRA
- National Environmental Policy Act
- The Defense Environmental Restoration Program
- Applicable state laws

The FFA established a procedural framework and schedule for ensuring that the environmental impacts associated with past and present activities at HPA are thoroughly investigated and appropriately remedied to protect human health and the environment. The FFA is also designed to aid in the exchange of information and to ensure the adequate assessment of potential injury to natural resources.

Section 6.1 of the FFA requires compliance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), CERCLA guidance and policy, RCRA guidance and policy, Executive Order 12580, and applicable state laws and regulations. Under Section 6.2 of the FFA, the Navy agreed to undertake, seek adequate funding for, fully implement, and report on the following tasks:

- **Conduct Preliminary Assessments/Site Inspections (PA/SI).** PA/SI investigations are conducted to determine if there is a risk to human health or the environment in areas that have been identified as potentially contaminated with hazardous materials.

The PA process involves interviews with facility personnel, reviews of available documentation, and site visits. If further investigation is warranted, the site moves on to the SI phase of investigation. The SI incorporates the findings of the PA and involves the collection of limited samples. The findings are documented in SI reports. If the PA or SI determines that there is little likelihood of risk and EPA and Cal/EPA concur, no further investigation is conducted for that area. If risk is likely, then the site is designated an Installation Restoration (IR) site and it is further investigated under the remedial investigation.

- **Conduct Remedial Investigation (RI).** An RI is the CERCLA-required study of a site where risks to human health and the environment are likely. Such sites were either previously investigated during the PA or SI or the site is assumed to potentially pose a risk, thereby bypassing the PA or SI investigation. One of the main purposes of an RI is to characterize the nature and extent of contamination at a site. The RI involves the collection and analysis of soil and groundwater samples. The RI report addresses the nature and extent of contamination and the estimation of risk to human health and the environment by the chemicals found at the site during the SI and RI investigations.

- **Prepare Feasibility Study (FS).** An FS is performed for IR sites where contamination poses an unacceptable risk to human health or the environment using data obtained in the RI. Different remedial technologies that could reduce the risk at the site to acceptable levels are compared. The FS should supply enough information to accomplish the following tasks: (1) allow remedial technologies to be compared based on their likely ability to protect human health and the environment; (2) determine the short-term and long-term effectiveness of the remedial technologies; (3) evaluate the effectiveness of the remedial technologies to bring the site into compliance with environmental regulations; (4) determine the extent to which the technology will reduce the toxicity, mobility, or volume of the contamination; and (5) assess how easily the technology can be implemented and how much the technology will cost. FS work is typically conducted concurrently with the RI report. New FS schedules for Parcels A through E are shown in Chapter 5.

- **Propose a Plan.** The proposed plan summarizes the findings of the RI and documents the recommendations of the FS. At this point an agreement on the remedy and schedule for executing the remedy would be documented in a record of decision (ROD). The ROD will take into account public comments and community concerns, and will include the Navy's responses to those comments. In the proposed plan, the Navy will describe its preferred FS alternative as well as other FS alternatives.

- **Operation and Maintenance of Response Actions.** The remedies selected in the proposed plan are executed and maintained. For example, these remedies or response actions may include source removals, treatment of contaminated soil and groundwater, capping of soil, or groundwater monitoring.

Under Section 8.1 of the FFA, all parties agreed to the deadlines set forth in the FFA for RI and FS reports, proposed plans, and the ROD, for each parcel (A through E) at HPA. The current schedule, renegotiated in June 1995, for completion of these documents for each parcel is listed in Chapter 5 of this document.

HPA has completed the PA/SI investigations for Parcels A through E and is currently in the RI phase of investigation. To date, SI reports have been prepared, but RI and FS reports and decision documents or RODs in which a remedial action is selected have not been prepared.

3.1.1 Chronology of Investigations and Site Groupings

A list of over 200 project reports that document environmental investigations and cleanups at HPA is located in Appendix B of this document. The reports date as far back as 1972.

The Navy Assessment and Control of Installation Pollutants was the Navy's original environmental program. This program consisted of three phases: (1) an initial assessment, (2) a confirmation study which consisted of the verification and characterization steps, and (3) the remedial action measures. The first phase of the program, which involves the initial assessment study, was completed in 1984. The initial assessment study identified 12 areas to be investigated for possible hazardous waste materials due to disposal or spills. The results of the investigation were that six sites were recommended for further investigation, three sites were recommended for mitigating actions (for example, drum removal), and three sites were recommended for no further investigation.

The second phase of the program, which includes the verification step and the characterization step of the confirmation study, was conducted for the 12 sites studied under the initial assessment. As a result of the verification step, 11 sites were recommended for the characterization step, as follows: the six sites that were recommended for further study by the initial assessment, four sites from the initial assessment that were recommended for mitigating actions or no investigation, and one additional site not studied in the initial assessment. In 1989, HPA was placed on the National Priorities List as a Superfund site. An FFA was proposed in 1992.

In the FFA, the 11 sites proposed for the characterization step of the confirmation study were reclassified within the RI/FS framework of CERCLA into operable units, based on similar types of contaminants. An operable unit is defined as an action taken as one part of an overall site cleanup, and at HPA the operable units were determined according to the location of sites, similarities in investigations or remediation strategy, and similarities in chemical conditions. The 11 sites from the confirmation study were either renumbered or combined (Sites 1 to 10), and new sites from the Triple A litigation were added (Sites 11 to 18). Sites 1 through 10 were placed into operable units I through IV; and Sites 12 through 18, any undiscovered sites, and the underground storage tanks (USTs) were placed in operable unit V. From this point on, all sites were placed under the Installation Restoration Program and are referred to as either IR or SI sites (refer to Table 3-1). UST, radiation, and site assessment (SA) sites are listed under the IR or SI site.

Following the initial RI, the use of operable units was found to be unworkable. The initial assumption that each operable unit could be completely characterized independent of adjacent sites, was proven to be impractical. With operable units, problems could not be resolved that resulted from multiple sites with diverse contaminants in conjunction with the various utilities (for example, storm lines and sanitary sewers) serving as both contaminant sources and pathways. Additionally, at this time under the initial FFA, the Navy's intent was to keep HPA as an active naval facility. The focus was subsequently changed, however, to expedite the restoration and transfer of HPA for reuse because of the Pelosi Amendment. These factors indicated the need to restructure the operable units to expedite the remediation process. The Navy and the regulatory agencies used two approaches: (1) the division of the site into geographic parcels and (2) the review of the previously designated operable units for possible interim actions through alternative selection reports. The process of redefining the sites began in January 1992, and the designation of five parcels (A through E) was formally submitted in April 1992. The geographic parcels are shown on Figure 1-2.

A site-wide inventory was conducted in October 1990 for HPA sites that previously were not adequately assessed. These sites included buildings, utility lines, equipment that contained polychlorinated biphenyls (PCB), and other sites designated as potentially contaminated. A PA was conducted and 40 sites (PA-19 through -58) were recommended for SI work. The results of the SI indicated that 14 sites posed no human health risk, and therefore, no further investigation was proposed. The remaining 26 sites, however, were recommended for RI. PAs were also conducted

regarding whether the fill contains the remains of these prehistoric sites was addressed in a study by the Navy in 1987. It was determined, in consultation with the State Historic Preservation Officer, that no prehistoric archaeological remains are located at HPA.

3.4 STATUS OF COMMUNITY INVOLVEMENT

Community relations activities have been ongoing at HPA since late 1987. A chronology of community relations activities is presented in Table 3-13. Activities listed include public meetings, open houses, and workshops carried out by the Navy, plus preparation and distribution of the newsletter "Environmental Clean-Up News," a Navy publication that describes ongoing cleanup activities and Navy participation in large-scale public events, such as the first open house at HPA in August 1994 that brought together representatives from the Navy, regulatory agencies, the San Francisco Redevelopment Agency, and concerned citizens.

In response to the need for increased employment and subcontracting opportunities for residents of the Hunters Point Bayview community, the Navy has directed its contractors to develop programs that allow local residents and small disadvantaged businesses to have increased subcontracting opportunities. As part of this effort, the Navy's contractor has presented information regarding current employment opportunities at public meetings held by the Citizens' Advisory Committee and the HPA Restoration Advisory Board. Innovative strategies and expanded interactions with the Hunters Point Bayview community have been implemented to foster community involvement and economic revitalization so that local businesses and residents may become involved in the cleanup process at HPA.

Community relations activities of significance are as follows:

- **Information Repository and Administrative Record** - An information repository and administrative record have been established and are maintained at two locations: (1) the San Francisco Public Library, Anna E. Waden Branch, 5075 Third Street, and (2) the San Francisco Public Library, Main Library, corner of McAllister and Larkin. Both repositories were updated in December 1993 and will be updated at least quarterly in the future. The repositories include copies of all major documents pertaining to environmental work at HPA.

- **Mailing List** - A community mailing list of all stakeholders in the community is maintained by the Navy and updated periodically to ensure that community members receive copies of all significant correspondence, fact sheets, and documents.

- **Community Relations Plan** - A plan was prepared in 1989, and will be updated by early 1995.

- **Newsletters** - Thirty-five "Environmental Clean-Up News" newsletters have been published. These newsletters were distributed using the HPA mailing list and at community meetings such as the Restoration Advisory Board and Citizen's Advisory Committee.

- **FFA Process** - The current FFA is dated January 22, 1992, as amended on September 13, 1993, by EPA and concurred with by the Navy on October 12, 1993. A new FFA schedule was agreed to on February 4, 1994, including schedules for an RI/FS, and a remedial plan and remedial design for HPA Parcels B, C, D, and E. The FFA schedules were renegotiated June 1995 for Parcels A to F and are presented in Chapter 5.

- **Technical Review Committee/Restoration Advisory Board** - The first technical review committee meeting was held in January 1989. Subsequent meetings were held approximately every 2 months thereafter. The technical review committee was changed and expanded to become the Restoration Advisory Board in late 1993, with the first Restoration Advisory Board meeting held on December 13, 1993. The Restoration Advisory Board meetings are held on the fourth Wednesday of each month at the Southeast Community Center located in the Bayview Hunters Point community at 9:30 a.m. with every fourth meeting held in the evenings at 5:30 p.m. The main purpose of the Restoration Advisory Board meetings is to provide the Hunters Point Bayview community a forum for input in the RI/FS process, aspects of base cleanup and conversion, and employment issues, and to provide an avenue for the Navy and the BCT to disseminate environmental information that may affect the community.

- **Community Meetings, Open Houses, Workshops, and Tours** - The Navy has held and attended numerous community meetings, open houses, workshops, and tours. The open houses provided an opportunity for the Navy to present information about the cleanup process at HPA. It also created a forum for the participants and community members to ask questions and become involved in the cleanup and closure process. During the open house on August 24, 1994, representatives from the San Francisco Redevelopment Agency presented the land use alternatives under consideration for HPA. Due to the success of this open house, it is foreseen that the Navy will conduct another open house in the near future.

CHAPTER 5
ENVIRONMENTAL PROGRAM MASTER SCHEDULES

This chapter presents the HPA master schedules of anticipated activities for environmental restoration and compliance programs at HPA.

5.1 ENVIRONMENTAL RESTORATION PROGRAM

The environmental restoration program schedules detail a time-line to prepare, approve, and comment on the remedial investigation report, feasibility study report, proposed plan, and record of decision. These schedules are determined when the Federal Facility Agreement is executed and assumes that unlimited resources are available to clean up the site. The Federal Facility Agreement is a working agreement between regulatory agencies and the Navy to facilitate the investigation and cleanup of former Department of Defense properties. For HPA, the agreement and schedules were made between the Navy, EPA, and Cal/EPA.

The original Federal Facility Agreement for HPA was signed on January 22, 1992. The original schedules were developed based on grouping the remedial investigation/feasibility study sites into operable units. Operable units were based on the preliminary evaluation of potential threat to human health and the environment, location of sites, and similarities in investigation or remediation strategies and chemical condition. Each of these operable units had individual schedules negotiated by the Navy and the regulatory agencies for the Installation Restoration Program through the completion of the record of decision.

In 1992, HPA Installation Restoration Program sites were restructured into geographic Parcels A through E. (Refer to Sections 3.1.1 and 4.1.) After renegotiation between the Navy, EPA, and Cal/EPA, the original Federal Facility Agreement schedules were discarded and new schedules for the five geographic parcels were agreed upon on February 4, 1994. Each Installation Restoration Program site is grouped into one of the five parcels, except for those sites such as the utility lines, that cross parcel boundaries (See Table 3-1).

The most current agreed upon Federal Facility Agreement schedules for the completion of Installation Restoration Program activities at each parcel are presented in Figures 5-1 to 5-6. These schedules show the agreed upon deadlines for Parcels A to F. The schedule should identify accelerated but achievable dates for the completion of the remedial investigation, feasibility study, and record of decision for each parcel. Radiation investigations are also included in the Installation Restoration Program and will be completed under the same schedules.

In addition to the schedules executed under the Federal Facility Agreement, three other types of schedules are presented in this section. These schedules are not legally enforceable and have not been negotiated with EPA and Cal/EPA.

1. Figure 5-7 presents the schedule for remedial design and remedial action. This schedule assumes "generic" estimates of the time required for remedial design and remedial action. It does not reflect any unusual technical problems. Also, the schedule does not consider the necessary phasing of cleanup that is caused by the large number of sites and the lack of sufficient resources (financial or otherwise) to clean up all the sites in a parcel. This schedule is based on the record of decision date assumed in the schedules presented by Figures 5-1 to 5-5; therefore delays in the parcel schedules would also delay the remedial design and remedial action schedules.

2. Figure 5-8 presents the proposed schedule for removals and interim remedial actions if funding was available. These activities were considered opportunities for accelerating cleanup. After cursory screening, this schedule includes all of the actions that have been identified through the ongoing remedial investigation work. Eventually, these actions and others will be necessary to clean up the site; however, these are the identified items that could be done earlier if the resources are available. The schedules presented in this figure have not been revised. However, in FY 94 and 95 the following removal actions were stared or implemented: pickling and plate yard removal (IR-09), tank farm remediation (IR-06), and basewide sandblast grit removals. In FY 96, the following accelerated cleanup opportunities have been proposed and will be implemented as funding becomes available: storm drain sediment removals, exploratory excavations, groundwater plume cleanups at three major HPA areas, and oil pond (IR-03) remediation.

All of the schedules presented assume that unlimited resources are available to clean up HPA, though this is not the case. Because the technical requirements exceeded available funds or contract capacity, the schedules for the Installation Restoration Program activities were renegotiated.

A table showing projected budgets for the Installation Restoration Program activities is provided in Appendix A.

5.2 COMPLIANCE PROGRAMS

In fiscal year 1995, EFA WEST has budgeted for the following compliance activities at HPA:

- Polychlorinated Biphenyl (PCB) and PCB-Containing Equipment Removal and Abatement
- Asbestos Abatement in Parcel A
- Solid Waste Management
- Site-Specific Environmental Baseline Surveys
- BRAC Cleanup Plan Revision

The schedule for completion of these activities has not been determined. A table showing projected budgets for the environmental compliance activities is provided as Appendix A.

5.3 NATURAL AND CULTURAL RESOURCES

Because no prehistoric sites have been discovered and no further actions are needed regarding the bridge crane and Dry Dock 4, there are no budget estimates or schedules addressing further actions regarding cultural resources.

5.4 MEETING SCHEDULE

The HPA BRAC Cleanup Team meets every 2 weeks at either HPA or at one of the offices of the team members. The Restoration Advisory Board meets every fourth Wednesday of each month, usually at the Southeast Community Center located in the Bayview Hunters Point community.

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The only outstanding issue is in regard to the calculation of chromium, cobalt, and nickel using a regression calculation as it relates to the magnesium concentration present in each soil sample. Within the next few months, further discussions will be conducted to resolve the differences still outstanding.

6.4.2 BCT Action Item

- Develop a strategy to resolve this issue. The Navy and EPA will meet to further discuss and hopefully resolve this issue in the near future. If necessary, the BCT will solicit expert input from geo-statisticians to resolve this complicated issue in a technically sound manner.

6.5 CONSTRAINED FUNDING IMPACTS ON ENVIRONMENTAL RESTORATION SCHEDULES

For the HPA project, the technical requirements appear to exceed available funds. In addition, Congress has reduced the amount of funds earmarked for environmental work.

6.5.1 Status/Strategy

Currently, the Navy's strategy is to use available funds to maximize compliance with the enforceable schedules in the Federal Facility Agreement (FFA). The planned budget will be shown in Table A-1 in Appendix A. Once that budget has been exhausted, supplemental funding might be available if the Navy makes a strong argument for additional funds.

6.5.2 BCT Action Item

- The BCT needs to continue to prioritize activities based on the restricted available funds currently allocated and the Installation Restoration Program activities that have enforceable schedules. A management strategy to conduct removal actions, which are not enforceable activities, instead of Installation Restoration Program activities should be discussed.

6.6 RISK ASSESSMENT

A key issue concerning risk assessment is the determination of the future land use to develop the appropriate exposure scenarios and risk-based concentrations for cleanup levels. This section discusses the status of the human health and ecological risk assessments and future strategies, as well as the action items that will require input from the Navy and the regulatory agencies.

6.6.1 Status/Strategy

Human health risk assessments were performed for preliminary assessment sites for which no remedial investigation activities were recommended. Sites for which a human health risk assessment has not been performed will be evaluated in the parcel-wide RI report.

The first phase of the base-wide ecological risk assessment has been completed. The first phase was a qualitative assessment consisting of the following tasks: compiling installation characteristics, evaluating installation chemical data, characterizing habitat and biota, compiling and evaluating toxicological data, evaluating contamination migration and exposure pathways, and conducting a qualitative assessment of the data. Based on this qualitative assessment, habitats were defined at HPA, as detailed in Section 3.3. The contaminants of potential concern for soils and groundwater based on the site's ecological receptors include metals, pesticides, and polynuclear aromatic hydrocarbons. Contaminants of potential concern for offshore sediments include metals, pesticides, polynuclear aromatic hydrocarbons, and PCBs.

The Navy submitted the draft phase 1B ecological risk assessment work plan for agency review on October 4, 1994. The Navy requested that the regulatory agencies prepare unified recommendations for conducting the offshore characterization. In mid-November, Cal/EPA provided comments on the draft work plan which covered both the offshore and terrestrial characterization. The Navy is currently reviewing the recommendations and comments and plans to work with the regulatory agencies to finalize the phase 1B ecological risk assessment work plan and develop the sampling and analysis plan.

6.28.2 BCT Action Items

When filtered and unfiltered data are collected, the BCT must decide the following:

- If bailed/filtered data are comparable to low-flow pump unfiltered data for a predominance of wells and analytes, the data usability of all filtered data collected to date and the continued use of bailed/filtered or low-flow pump technique needs to be determined.
- If bailed/filtered data are not directly comparable to low-flow pump unfiltered data for a predominance of wells and analytes, the intended use of the data, the required data quality, and the cost associated with the modification of the current sampling protocol, such as extending well purging time or performing both filtered and unfiltered metals analysis, will need to be considered.

6.29 DECISION DOCUMENT FOR PARCEL A

The BCT needs to resolve the issue of a decision document for Parcel A. This document would include a covenant that all necessary remedial actions have been taken, in addition to a Finding of Suitability to Transfer.

6.29.1 Status/Strategy

The concern regarding documentation is currently focused on the scope of the remedial investigation report and how it relates to previous work documented in the site inspection report. The issue to be resolved by the BCT is whether the scope of the RI report should be expanded to include the soil removals currently documented in the site inspection report, and the extent of analysis of applicable or relevant and appropriate requirements and fate and transport required. Following agreement on the RI report issues, the scope of documents such as the feasibility study, proposed plan, and record of decision will also require some input and consensus from the BCT.

6.29.2 BCT Action Item

- Develop a series of working meetings to determine the scope for Parcel A documents such as the RI/FS report, proposed plan, and record of decision.

6.30 FEDERAL FACILITY AGREEMENT SCHEDULE

The FFA schedules provided in BCP Revision 01 of February 24, 1995 were those negotiated in February 4, 1994. These schedules have been renegotiated as of June 1995.

6.30.1 Status/Strategy

Previous schedules have been proposed for Parcels B, C, D, and E. The Parcel A schedule had not been proposed by the Navy as a result of discussions regarding the need for further investigation as well as the type of decision documents required. In June 1995, the BCT agreed to a new revised FFA schedule for Parcels A through F. Parcel F is the off-shore portion of the facility which is undergoing an ecological risk assessment. The new revised schedules are presented in Chapter 5. This item is considered resolved and will be deleted as an "issue to be resolved" in the next BCP revision.

6.31 NATURAL RESOURCE DAMAGE ASSESSMENT

Natural resource damage claims apply to the residual damages left after a cleanup is completed. These claims are meant to be restitutional rather than punitive, and are used to restore, replace, or acquire the equivalent of the injured natural resource.

6.31.1 Status/Strategy

Currently, four federal and state trustees are part of the HPA Restoration Advisory Board: U.S. Department of the Interior, U.S. Fish and Wildlife Service, California Department of Fish and Game, and National Oceanic and Atmospheric Administration. However, the National Oil and Hazardous Substances Pollution Contingency Plan has designated other federal trustees, such as the U.S. Departments of Commerce, Energy, and Agriculture. In addition, state governors may also appoint state agencies as trustees.

Important information gathered during the RI/FS process is used by the trustees during the preassessment and assessment phases. Trustees have been involved in the HPA ecological risk evaluation. However, continued involvement in all phases of the investigation should be encouraged, especially as HPA enters the last phase of the RI program.

6.31.2 BCT Action Items

- One of the primary goals of coordinating with all natural resource trustees throughout the RI/FS process is to ensure that the site-wide record of decision addresses both remediation and restoration of natural resources. As such, a goal of the BCT is to develop a strategy to fully involve the federal and state trustees, especially as parcels of HPA enter the last phase of the RI program, since agreement among all co-trustees at this stage will increase the likelihood that the remedial design and remedial action will address restoration of injured natural resources.

- The natural resource damage regulations do not provide clear rules regarding overlapping jurisdiction among trustees; however, the regulations bar double recovery where there are multiple trustees. As a general rule, federal agencies do not pursue damage assessments against each other, though states may pursue damage assessments against federal agencies. A goal of the BCT is to begin a frank discussion with the HPA trustees, expert witnesses from the Navy, the Navy's contractor, and regulatory agencies regarding the assessment approach that will be used for HPA.

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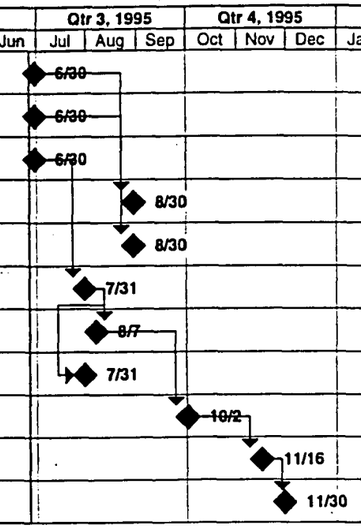
Parcel A FFA Schedule
Hunters Point Annex

ID	Task Name	Duration	Start	Finish
1	Draft Ri Report	0d	6/30/95	6/30/95
2	Draft FS Report	0d	6/30/95	6/30/95
3	Draft Proposed Plan for Agency Review	0d	6/30/95	6/30/95
4	Draft Final RI Report	0d	8/30/95	8/30/95
5	Draft Final FS Report	0d	8/30/95	8/30/95
6	Draft Final Proposed Plan	0d	7/31/95	7/31/95
7	Final Proposed Plan Published	0d	8/7/95	8/7/95
8	Start of Public comment period on Proposed Plan	0d	7/31/95	7/31/95
9	Draft Record of Decision (ROD)	0d	10/2/95	10/2/95
10	Final ROD From Navy w/ no signature	0d	11/16/95	11/16/95
11	Final ROD Approval	0d	11/30/95	11/30/95



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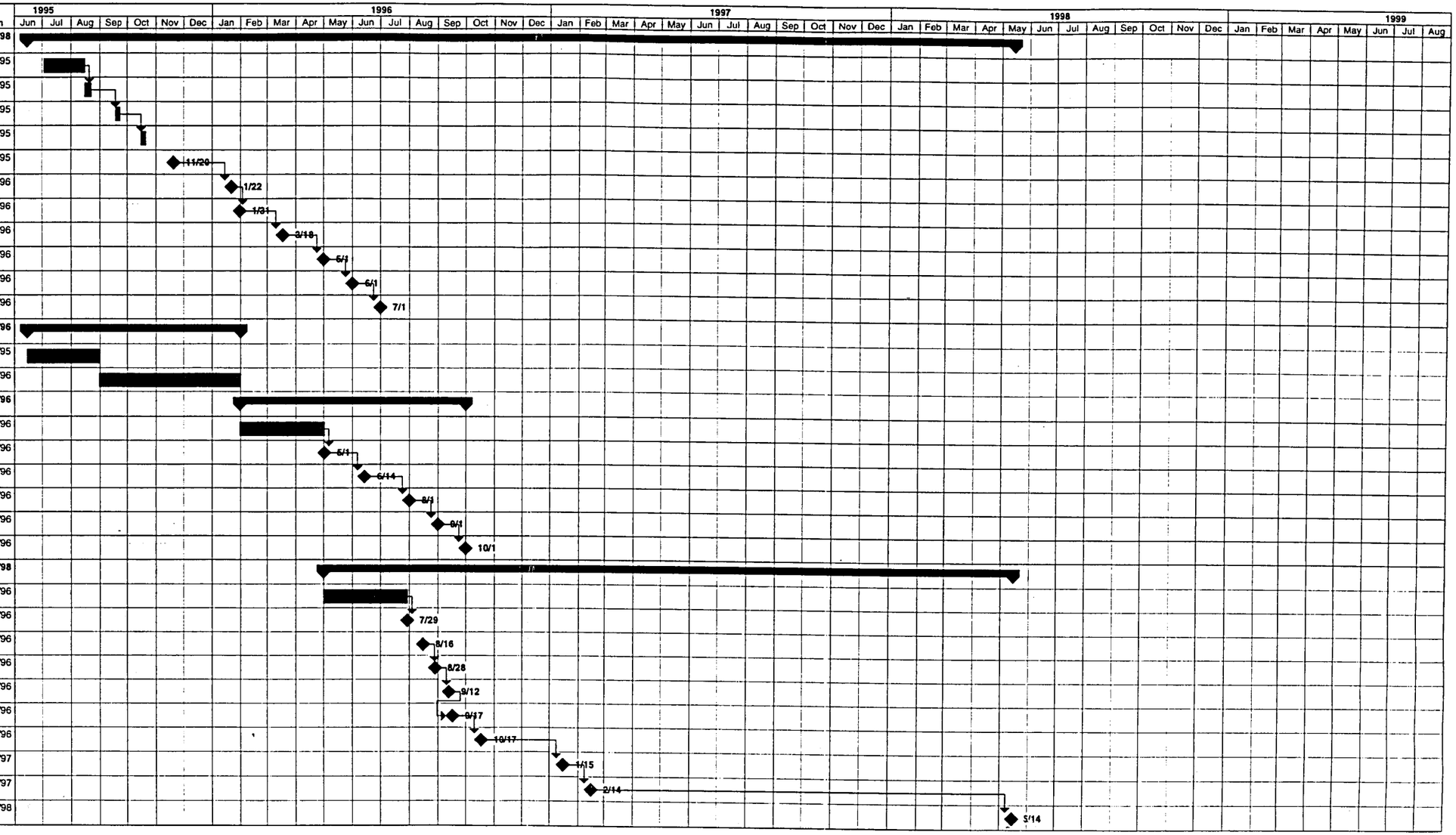
Task ▬▬▬ Milestone ◆ Summary ▬▬▬

FIGURE 5-1
PARCEL A FFA SCHEDULE
HUNTERS POINT ANNEX
SAN FRANCISCO, CALIFORNIA

Proposed FFA Schedule

ID	Task Name	Duration	Start	Finish
1	**Parcel B RI Fieldwork and Report**	761d	6/15/95	5/14/98
2	Field Work	32d	7/3/95	8/15/95
3	Groundwater Sampling - Round 1	5d	8/16/95	8/22/95
4	Groundwater Sampling - Round 2	5d	9/18/95	9/22/95
5	Groundwater Sampling - Round 3	5d	10/16/95	10/20/95
6	Non-Validated Data Received from Round 3	0d	11/20/95	11/20/95
7	Validated Data Received from Round 3	0d	1/22/96	1/22/96
8	Draft RI Report	0d	1/31/96	1/31/96
9	Comments on Draft RI Report	0d	3/18/96	3/18/96
10	Draft Final RI Report	0d	5/1/96	5/1/96
11	Comments on Draft Final RI Report	0d	6/1/96	6/1/96
12	Response to Comments on Draft Final RI Report	0d	7/1/96	7/1/96
13	**Preparation of Remedial Investigation Report (RI)**	165d	6/15/95	1/31/96
14	Interpret for RI Report	56d	6/15/95	8/31/95
15	Prepare RI Report	110d	8/31/95	1/31/96
16	**Feasibility Study Report (FS)**	174d	1/31/96	10/1/96
17	Prepare FS Report	66d	1/31/96	5/1/96
18	Draft FS Report	0d	5/1/96	5/1/96
19	Comments on Draft FS Report	0d	6/14/96	6/14/96
20	Draft Final FS Report	0d	8/1/96	8/1/96
21	Comments Draft Final on FS Report	0d	9/1/96	9/1/96
22	Response to Comments on FS Report	0d	10/1/96	10/1/96
23	**Proposed Plan Report (PP)**	532d	5/1/96	5/14/98
24	Prepare PP Report	64d	5/1/96	7/29/96
25	Draft PP Report	0d	7/29/96	7/29/96
26	Comments on Draft PP Report	0d	8/16/96	8/16/96
27	Draft Final PP	0d	8/28/96	8/28/96
28	Draft Final PP Published	0d	9/12/96	9/12/96
29	Start of Public Comment on PP	0d	9/17/96	9/17/96
30	**Draft Record of Decision (ROD)**	0d	10/17/96	10/17/96
31	**Final ROD from Navy without signiture**	0d	1/15/97	1/15/97
32	**Final ROD approved**	0d	2/14/97	2/14/97
33	**Commence Remedial Action**	0d	5/14/98	5/14/98



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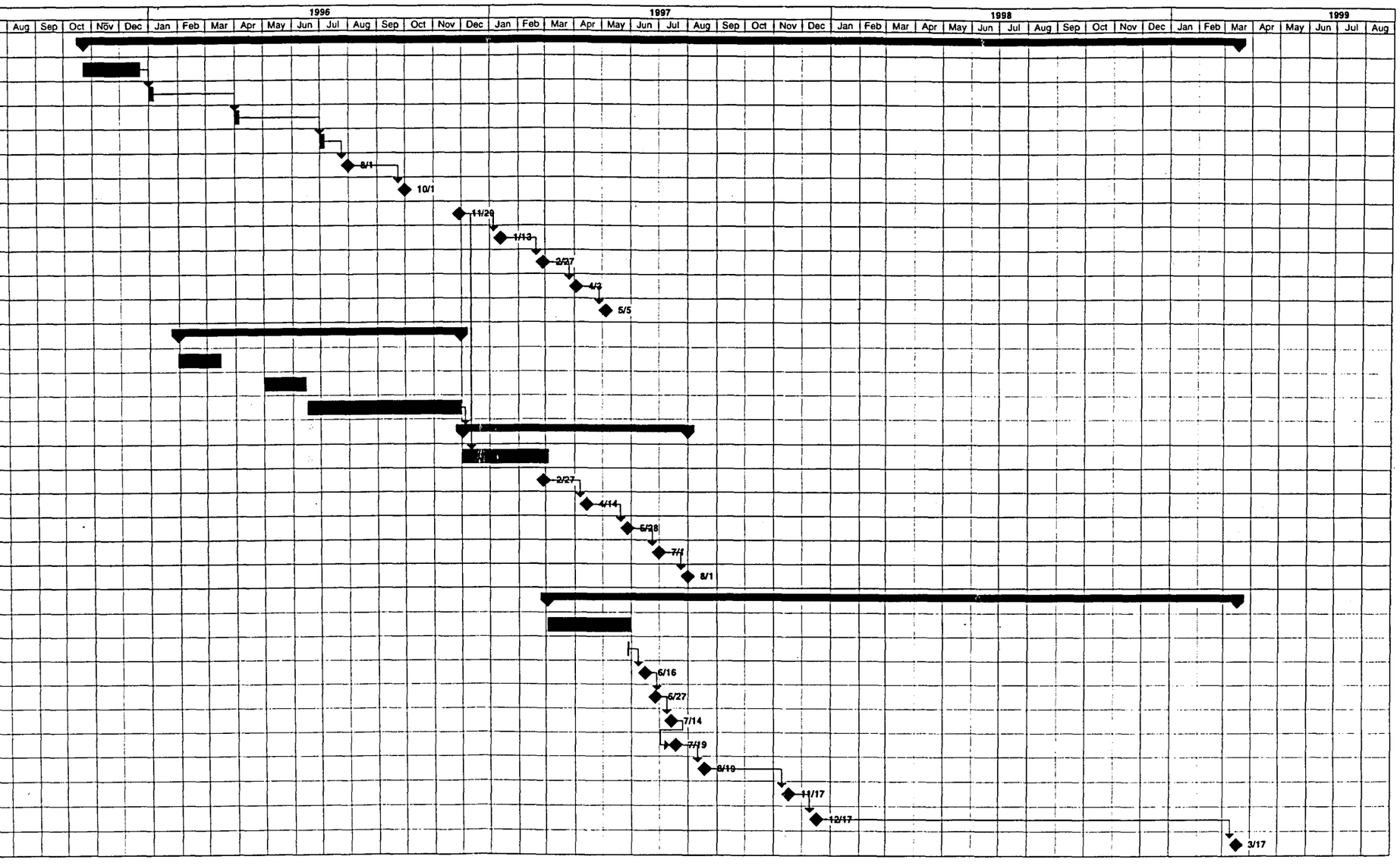
Task ▬ Milestone ◆ Summary ▬

FIGURE 5-2
PARCEL B FFA SCHEDULE
HUNTERS POINT ANNEX
SAN FRANCISCO, CALIFORNIA

Propsed FFA Schedule

TASK No.		Duration	Start	Finish
1	**Parcel C RI Fieldwork and Report**	**887d**	**10/23/95**	**3/17/99**
68	Field Work	45d	10/23/95	12/22/95
69	Groundwater Sampling - Round 1	5d	1/1/96	1/5/96
70	Groundwater Sampling - Round 2	5d	4/1/96	4/5/96
71	Groundwater Sampling - Round 3	5d	7/1/96	7/5/96
72	Non-Validated Data Received from Round 3	0d	8/1/96	8/1/96
73	Validated Data Received from Round 3	0d	10/1/96	10/1/96
74	Draft RI Report	0d	11/29/96	11/29/96
75	Comments on Draft RI Report	0d	1/13/97	1/13/97
76	Draft Final RI Report	0d	2/27/97	2/27/97
77	Comments on Draft Final RI Report	0d	4/3/97	4/3/97
78	Response to Comments on Draft Final RI Report	0d	5/5/97	5/5/97
79	**Preparation of Remedial Investigation Report (RI)**	**218d**	**1/31/96**	**11/29/96**
80	Interpret RI Report - Part 1	33d	1/31/96	3/15/96
81	Interpret RI Report - Part 2	33d	5/1/96	6/14/96
82	Prepare RI Report	120d	6/17/96	11/29/96
83	**Feasibility Study Report (FS)**	**174d**	**12/2/96**	**8/1/97**
84	Prepare FS Report	66d	12/2/96	3/3/97
85	Draft FS Report	0d	2/27/97	2/27/97
86	Comments on Draft FS Report	0d	4/14/97	4/14/97
87	Draft Final FS Report	0d	5/28/97	5/28/97
88	Comments Draft Final on FS Report	0d	7/1/97	7/1/97
89	Response to Comments on Draft Final FS Report	0d	8/1/97	8/1/97
90	**Proposed Plan Report (PP)**	**532d**	**3/3/97**	**3/17/99**
91	Prepare PP Report	65d	3/3/97	5/30/97
92	Draft PP Report	1d	5/28/97	5/28/97
93	Comments on Draft PP Report	0d	6/16/97	6/16/97
94	Draft Final PP	0d	6/27/97	6/27/97
95	Draft Final PP Published	0d	7/14/97	7/14/97
96	Start of Public Comment on PP	0d	7/19/97	7/19/97
97	**Draft Record of Decision (ROD)**	0d	8/19/97	8/19/97
98	**Final ROD from Navy without signiture**	0d	11/17/97	11/17/97
99	**Final ROD approved**	0d	12/17/97	12/17/97
100	**Commence Remedial Action**	0d	3/17/99	3/17/99



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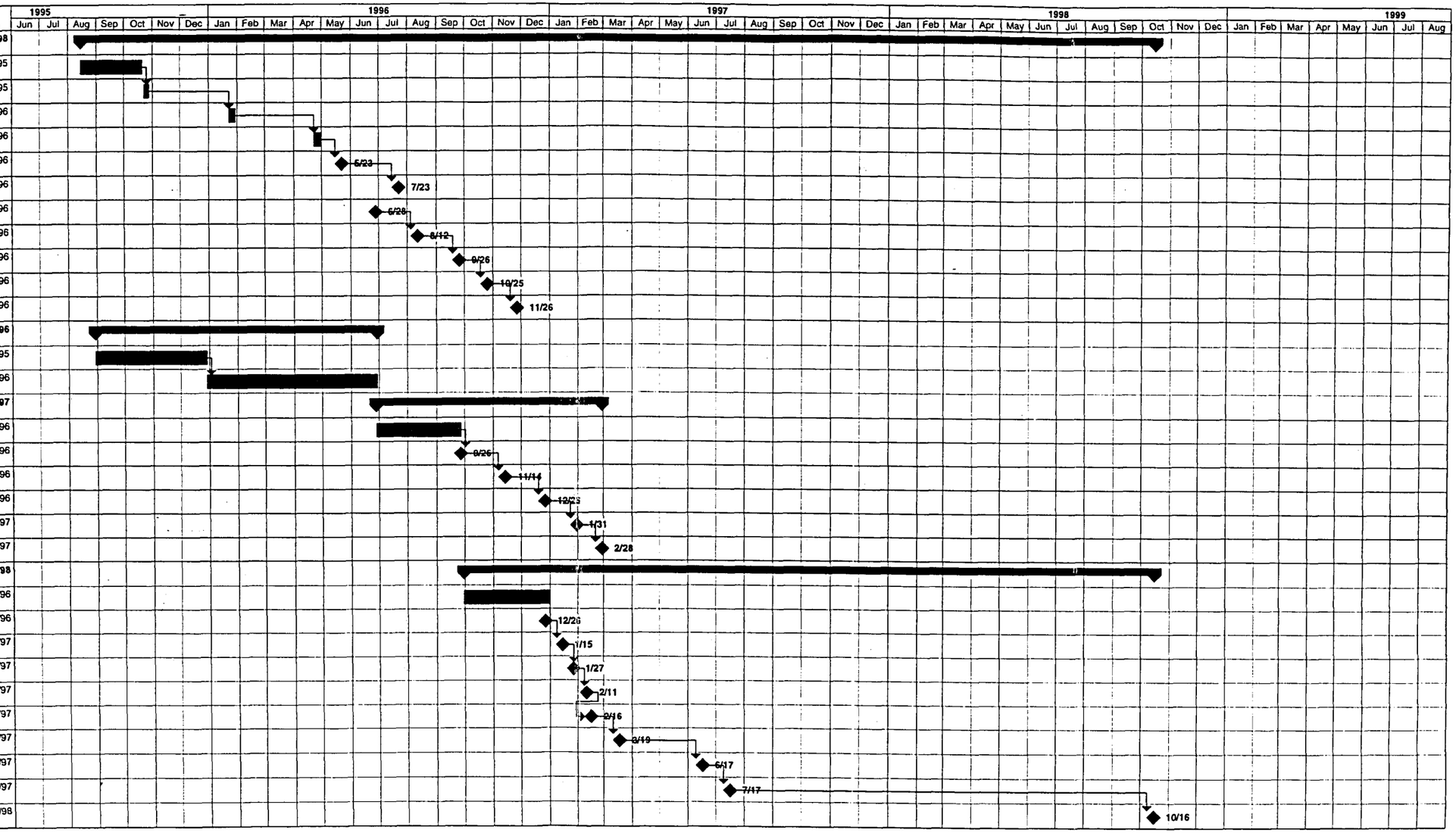
Task ■ Milestone ◆ Summary ▬

FIGURE 5-3
PARCEL C FFA SCHEDULE
HUNTERS POINT ANNEX
SAN FRANCISCO, CALIFORNIA

Propsed FFA Schedule

ID	Task Name	Duration	Start	Finish
34	**Parcel D RI Fieldwork and Report**	**828d**	**8/15/95**	**10/16/98**
	Field Work	49d	8/15/95	10/20/95
36	Groundwater Sampling - Round 1	5d	10/23/95	10/27/95
37	Groundwater Sampling - Round 2	5d	1/23/96	1/29/96
38	Groundwater Sampling - Round 3	5d	4/23/96	4/29/96
39	Non-Validated Data Received from Round 3	0d	5/23/96	5/23/96
40	Validated Data Received from Round 3	0d	7/23/96	7/23/96
41	Draft RI Report	0d	6/28/96	6/28/96
42	Comments on Draft RI Report	0d	8/12/96	8/12/96
43	Draft Final RI Report	0d	9/26/96	9/26/96
44	Comments on Draft Final RI Report	0d	10/25/96	10/25/96
45	Response to Comments on Draft Final RI Report	0d	11/26/96	11/26/96
46	**Preparation of Remedial Investigation Report (RI)**	**218d**	**8/30/95**	**6/28/96**
47	Interpret for RI Report	87d	8/30/95	12/28/95
48	Prepare RI Report	131d	12/29/95	6/28/96
49	**Feasibility Study Report (FS)**	**175d**	**6/28/96**	**2/28/97**
50	Prepare FS Report	65d	6/28/96	9/26/96
51	Draft FS Report	0d	9/26/96	9/26/96
52	Comments on Draft FS Report	0d	11/14/96	11/14/96
53	Draft Final FS Report	0d	12/26/96	12/26/96
54	Comments on Draft Final FS Report	0d	1/31/97	1/31/97
55	Response to Comments on Draft Final FS Report	0d	2/28/97	2/28/97
56	**Proposed Plan Report (PP)**	**534d**	**9/30/96**	**10/16/98**
57	Prepare PP Report	67d	9/30/96	12/31/96
58	Draft PP Report	0d	12/26/96	12/26/96
59	Comments on Draft PP Report	0d	1/15/97	1/15/97
60	Draft Final PP	0d	1/27/97	1/27/97
61	Draft Final PP Published	0d	2/11/97	2/11/97
62	Start of Public Comment on PP	0d	2/16/97	2/16/97
63	**Draft Record of Decision (ROD)**	0d	3/19/97	3/19/97
64	**Final ROD from Navy without signiture**	0d	6/17/97	6/17/97
65	**Final ROD approved**	0d	7/17/97	7/17/97
66	**Commence Remedial Action**	0d	10/16/98	10/16/98



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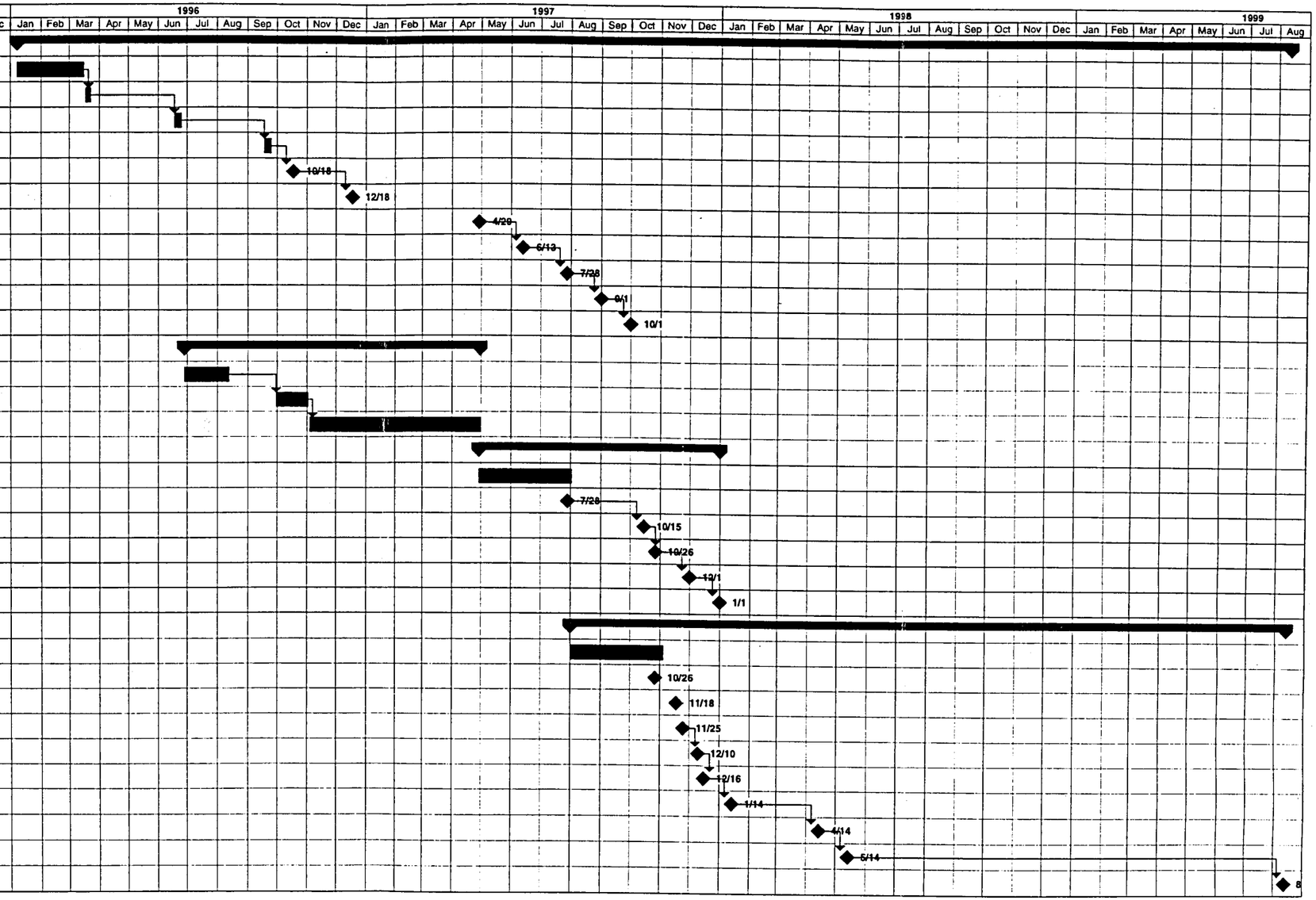
Task Milestone Summary

FIGURE 5-4
PARCEL D FFA SCHEDULE
HUNTERS POINT ANNEX
SAN FRANCISCO, CALIFORNIA

Proposed FFA Schedule

ID	Task Name	Duration	Start	Finish
101	**Parcel E RI Fieldwork and Report**	**939d**	**1/8/96**	**8/13/99**
102	Field Work	50d	1/8/96	3/15/96
103	Groundwater Sampling - Round 1	5d	3/18/96	3/22/96
104	Groundwater Sampling - Round 2	5d	6/18/96	6/24/96
105	Groundwater Sampling - Round 3	5d	9/18/96	9/24/96
106	Non-Validated Data Received from Round 3	0d	10/18/96	10/18/96
107	Validated Data Received from Round 3	0d	12/18/96	12/18/96
108	Draft RI Report	0d	4/29/97	4/29/97
109	Comments on Draft RI Report	0d	6/13/97	6/13/97
110	Draft Final RI Report	0d	7/28/97	7/28/97
111	Comments on Draft Final RI Report	0d	9/1/97	9/1/97
112	Response to Comments on Draft Final RI Report	0d	10/1/97	10/1/97
113	**Preparation of Remedial Investigation Report (RI)**	**218d**	**6/28/96**	**4/29/97**
114	Interpret RI Report - Part 1	32d	6/28/96	8/12/96
115	Interpret RI Report - Part 2	25d	9/30/96	11/1/96
116	Prepare RI Report	127d	11/4/96	4/29/97
117	**Feasibility Study Report (FS)**	**177d**	**4/29/97**	**1/1/98**
118	Prepare FS Report	69d	4/29/97	8/1/97
119	Draft FS Report	0d	7/28/97	7/28/97
120	Comments on Draft FS Report	0d	10/15/97	10/15/97
121	Draft Final FS Report	0d	10/26/97	10/26/97
122	Comments Draft Final on FS Report	0d	12/1/97	12/1/97
123	Response to Comments on FS Report	0d	1/1/98	1/1/98
124	**Proposed Plan Report (PP)**	**530d**	**8/1/97**	**8/13/99**
125	Prepare PP Report	67d	8/1/97	11/3/97
126	Draft PP Report	0d	10/26/97	10/26/97
127	Comments on Draft PP Report	0d	11/18/97	11/18/97
128	Draft Final PP	0d	11/25/97	11/25/97
129	Draft Final PP Published	0d	12/10/97	12/10/97
130	Start of Public Comment on PP	0d	12/16/97	12/16/97
131	**Draft Record of Decision (ROD)**	0d	1/14/98	1/14/98
132	**Final ROD from Navy without signiture**	0d	4/14/98	4/14/98
133	**Final ROD approved**	0d	5/14/98	5/14/98
134	**Commence Remedial Action**	0d	8/13/99	8/13/99



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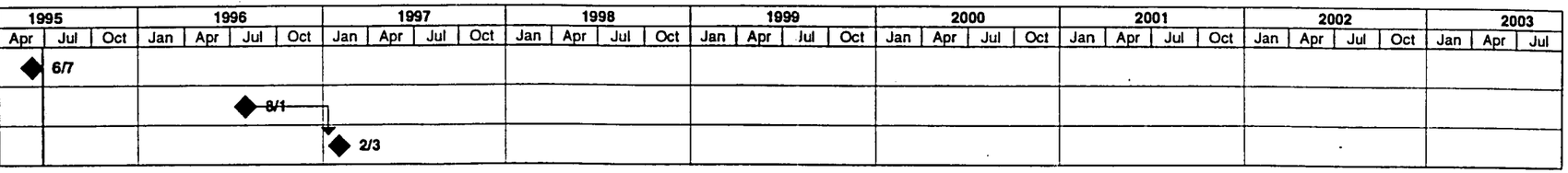
Date: 8/7/95

Task ■ Milestone ◆ Summary ■

FIGURE 5-5
PARCEL E FFA SCHEDULE
HUNTERS POINT ANNEX
SAN FRANCISCO, CALIFORNIA

Parcel F FFA Schedule
Hunters Point Annex

ID	Task Name	Duration	Start	Finish
1	Draft Ecological Risk Assessment Phase 1B Workplan	0d	6/7/95	6/7/95
2	Draft Ecological Risk Assessment Phase 1B Report	0d	8/1/96	8/1/96
3	Draft Ecological Risk Assessment Phase 2 Workplan	0d	2/3/97	2/3/97



Task ▬▬▬ Milestone ◆ Summary ▬▬▬

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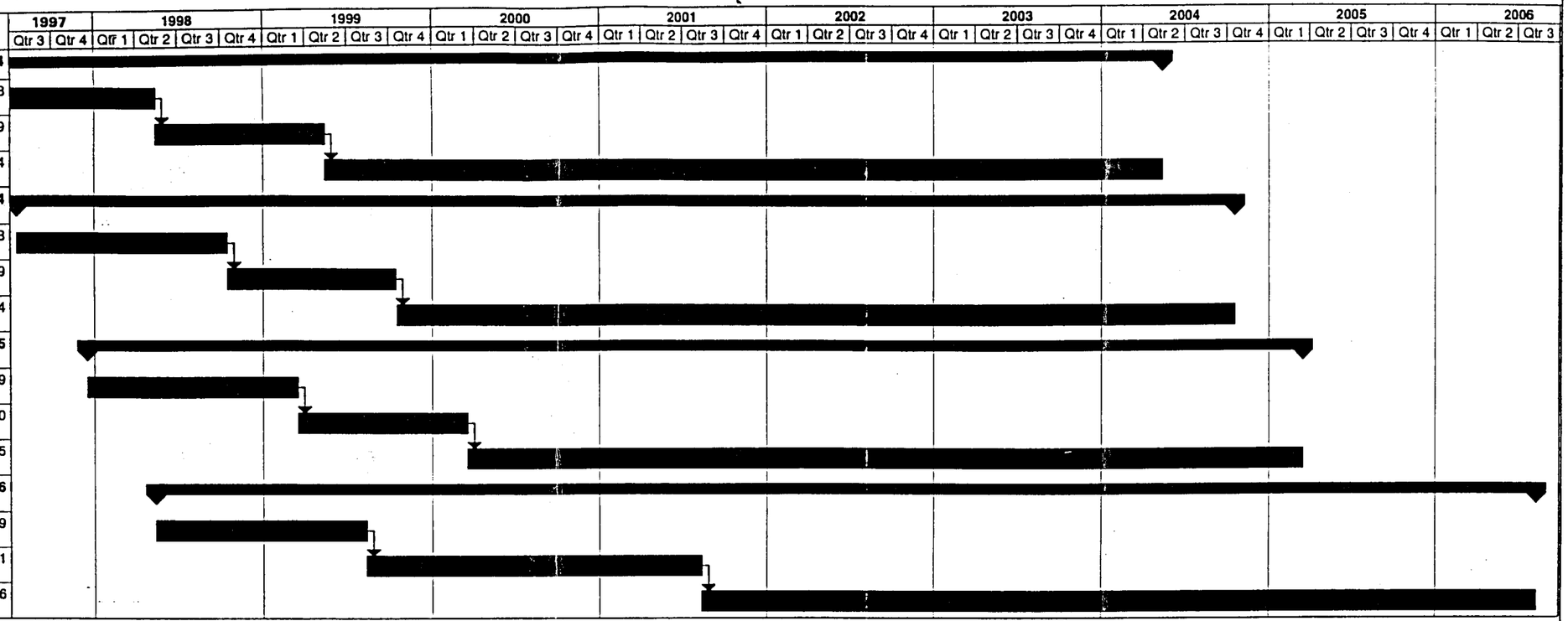
FIGURE 5-6
PARCEL F FFA SCHEDULE
(ECOLOGICAL RISK ASSESSMENT)
HUNTERS POINT ANNEX
SAN FRANCISCO, CALIFORNIA

Proposed Remedial Design/Action Schedule

ID	Name	Start	Finish
1	**Parcel B**	[illegible]	5/14/04
2	Remedial Design	2/14/97	5/14/98
3	Remedial Action	5/14/98	5/14/99
4	O & M (1)	5/14/99	5/14/04
5	**Parcel D**	**7/17/97**	**10/18/04**
6	Remedial Design	7/17/97	10/16/98
7	Remedial Action	10/16/98	10/16/99
8	O & M	10/18/99	10/18/04
9	**Parcel C**	**12/17/97**	**3/17/05**
10	Remedial Design	12/17/97	3/17/99
11	Remedial Action	3/17/99	3/17/00
12	O & M	3/17/00	3/17/05
13	**Parcel E**	**5/14/98**	**8/12/06**
14	Remedial Design	5/14/98	8/13/99
15	Remedial Action (2)	8/13/99	8/13/01
16	O & M (3)	8/13/01	8/12/06



Revision: 6/26/95

Task | Milestone | Rolled Up Task | Rolled Up Progress

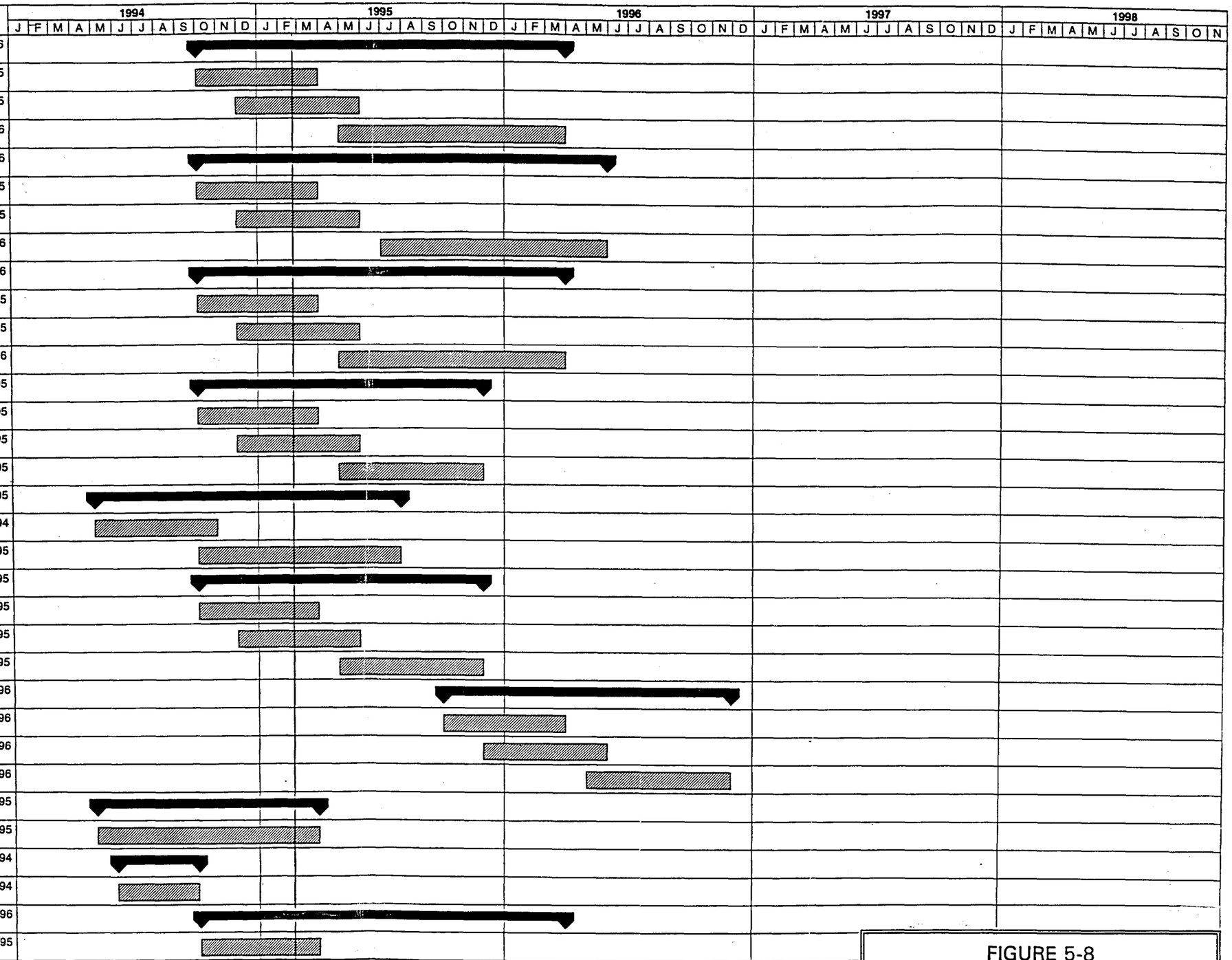
Progress | Summary | Rolled Up Milestone

Notes: (1) assumes that O & M will take 5 years based on use of non-attainment zone for groundwater. (2) assumes RA will take 2 years based on size of cleanup. (3) O & M excludes IR-1 in Parcel E, which would require 30 year cleanup

FIGURE 5-7
PROPOSED REMEDIAL DESIGN/
ACTION SCHEDULE
HUNTERS POINT ANNEX
SAN FRANCISCO, CALIFORNIA

Acceleration Opportunities

ID	Parcel	Task Name	Start	Finish
1	B, C, D, E	IR 45 Steamlines	10/3/94	3/31/96
2		Prepare EE/CA	10/3/94	3/31/95
3		Prepare Action Memorandum	12/1/94	5/31/95
4		Conduct Removal	5/1/95	3/31/96
5	B, C, D, E	IR 50 Storm Drain Sediment	10/3/94	5/31/96
6		Prepare EE/CA	10/3/94	3/31/95
7		Prepare Action Memorandum	12/1/94	5/31/95
8		Conduct Removal	7/3/95	5/31/96
9	B, D	IR 46, 47, 49 Fuel Lines	10/3/94	3/31/96
10		Prepare EE/CA	10/3/94	3/31/95
11		Prepare Action Memorandum	12/1/94	5/31/95
12		Conduct Removal	5/1/95	3/31/96
13	B, C, D, E	Exploratory Excavations	10/3/94	11/30/95
14		Prepare EE/CA	10/3/94	3/31/95
15		Prepare Action Memorandum	12/1/94	5/31/95
16		Conduct Removal	5/1/95	11/30/95
17	B	IR 6 Tank Farm Product and Soil	5/2/94	7/31/95
18		Prepare Action Memorandum	5/2/94	10/31/94
19		Conduct Removal	10/3/94	7/31/95
20	B	IR 42 Buried Metal Object	10/3/94	11/30/95
21		Prepare EE/CA	10/3/94	3/31/95
22		Prepare Action Memorandum	12/1/94	5/31/95
23		Conduct Removal	5/1/95	11/30/95
24	B	IR 07 Sub Base Area	10/2/95	11/30/96
25		Prepare EE/CA	10/2/95	3/31/96
26		Prepare Action Memorandum	12/1/95	5/31/96
27		Conduct Remov'	5/1/96	11/30/96
28	D	IR 09 Pickling & Plate Yard	5/2/94	3/31/95
29		Conduct Removal	5/2/94	3/31/95
30	D	IR 35 & 44 Sandblast Grit Removal	6/1/94	9/30/94
31		Conduct Removal	6/1/94	9/30/94
32	D	IR 11 Soils & Floating Product, Bldg. 521	10/3/94	3/31/96
33		Prepare Action Memorandum	10/3/94	3/31/95



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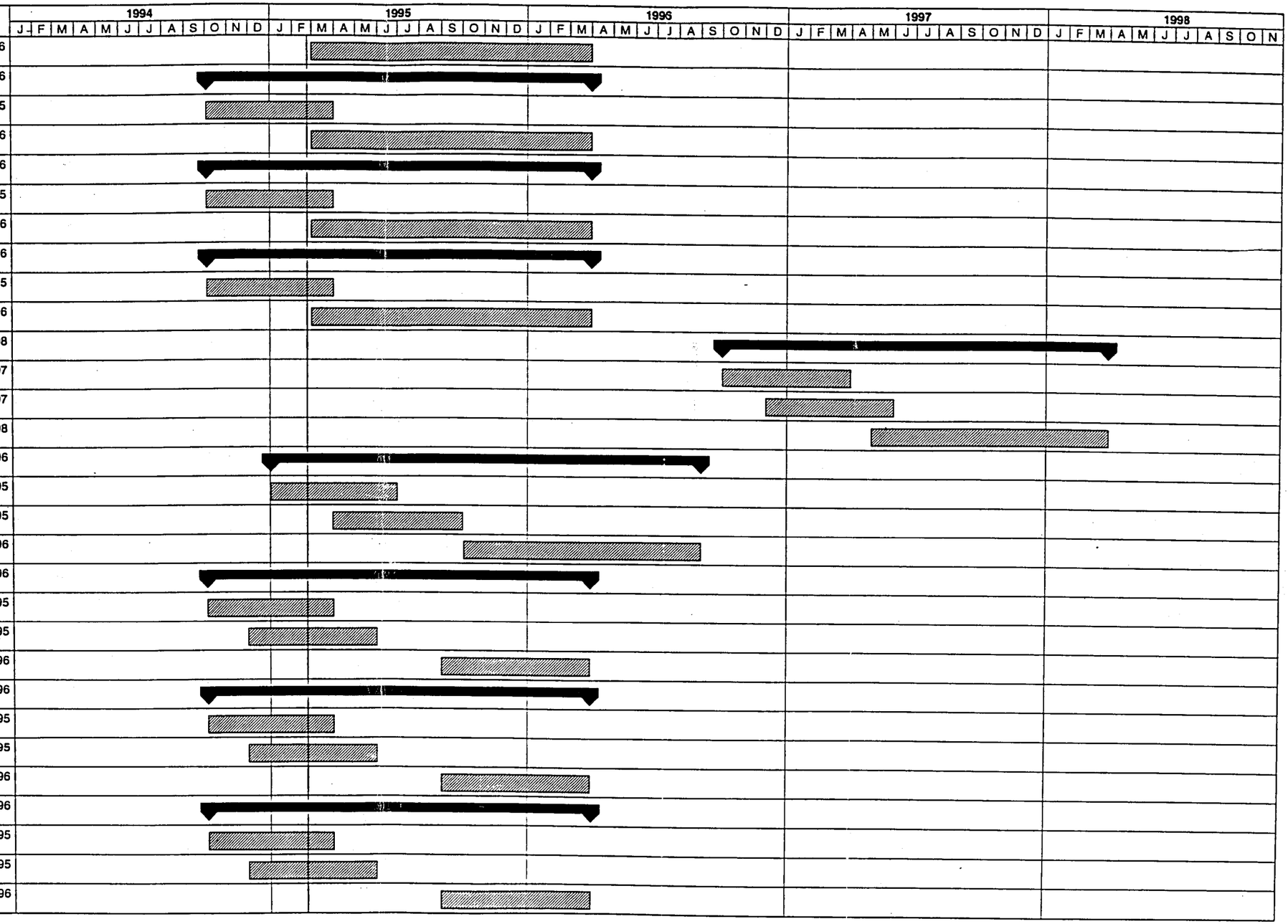
Task Milestone Summary

FIGURE 5-8
ACCELERATION OPPORTUNITIES
HUNTERS POINT ANNEX
SAN FRANCISCO, CALIFORNIA

ID	Parcel	Task Name	Start	Finish
34		Conduct Removal	3/1/95	3/31/96
35	D	IR 12 Disposal Trench Area	10/3/94	3/31/96
36		Prepare Action Memorandum	10/3/94	3/31/95
37		Conduct Removal	3/1/95	3/31/96
38	D	IR 14 Soils & Floating Prod. Oily Liquid Waste	10/3/94	3/31/96
39		Prepare Action Memorandum	10/3/94	3/31/95
40		Conduct Removal	3/1/95	3/31/96
41	D	IR 15 Soils & Floating Prod. Incineration Tank	10/3/94	3/31/96
42		Prepare Action Memorandum	10/3/94	3/31/95
43		Conduct Removal	3/1/95	3/31/96
44	D	RAD 09 Bldg. 364	10/1/96	3/31/98
45		Prepare EE/CA	10/1/96	3/31/97
46		Prepare Action Memorandum	12/2/96	5/31/97
47		Conduct Removal	5/1/97	3/31/98
48	E	IR 2 Treatability Study for Radium Dials	1/2/95	8/31/96
49		Prepare EE/CA	1/2/95	6/30/95
50		Prepare Action Memorandum	3/31/95	9/30/95
51		Conduct Removal	10/2/95	8/31/96
52	E	IR 02 Tank S-505	10/3/94	3/29/96
53		Prepare EE/CA	10/3/94	3/31/95
54		Prepare Action Memorandum	12/1/94	5/31/95
55		Conduct Removal	9/1/95	3/29/96
56	E	IR 03	10/3/94	3/29/96
57		Prepare EE/CA	10/3/94	3/31/95
58		Prepare Action Memorandum	12/1/94	5/31/95
59		Conduct Removal	9/1/95	3/29/96
60	E	IR 52 Railroad Right-of-Way	10/3/94	3/31/96
61		Prepare EE/CA	10/3/94	3/31/95
62		Prepare Action Memorandum	12/1/94	5/31/95
63		Conduct Removal	9/1/95	3/31/96



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Task ▨ Milestone ◆ Summary ▬

FIGURE 5-8 (CONTINUED)
ACCELERATION OPPORTUNITIES
HUNTERS POINT ANNEX
SAN FRANCISCO, CALIFORNIA

TABLE A-1

BRAC CLEANUP PLAN
TOTAL ENVIRONMENTAL PROGRAM SUMMARY
FUNDING REQUIREMENTS ($000)
BY FISCAL YEAR (FY)
HUNTERS POINT ANNEX

Program	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 00+	Totals
Installation Restoration Program	23,477	11,229	87,279	51,250	96,511	138,019	407,765
Compliance Programs	7,973	9,541	7,648	296	296	1,201	26,955
Totals	31,450	20,770	94,927	51,546	96,807	139,220	434,720

Notes:

1. Numbers are based on Cost-to-Complete Methodology.

2. Actual FY96 funded allocations will be based on the Defense Authorization Bill to be approved by Congress during the Fall of 1995.

3. Figures for the outyears (1997-2000) are engineering estimates and will be refined as more information becomes available.